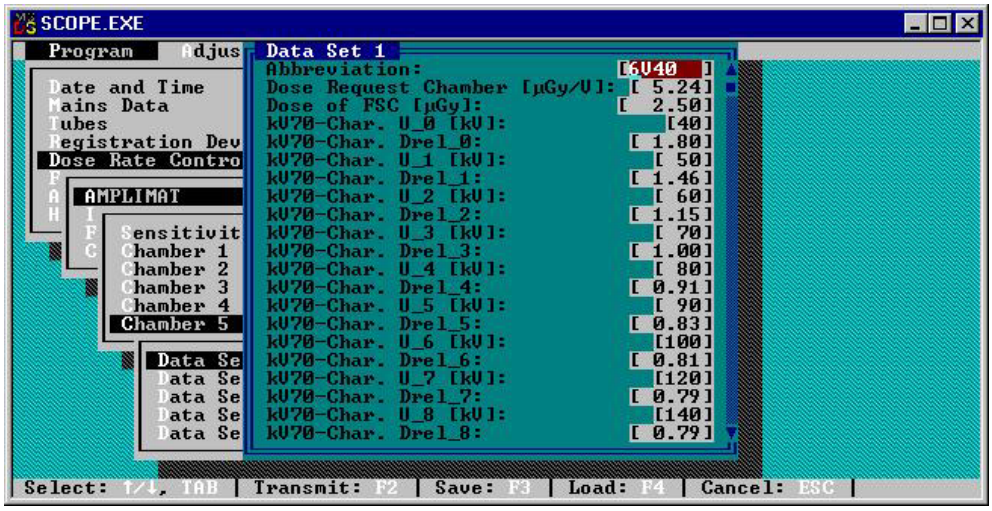
Dose Rate Control setting Optimus for Computed Radiography (PCR or other imaging plates)

Select:
Optimus (XRG90) >> Program >> **Dose Rate Control** >> **AMPLIMAT** >> **Chamber 1...5 >> Data Set 1...5** >> **DRC Handling: Start Automatic DRC Processing** >> **<OK>**
The following example is for a 400 speed system, determined by the selection of the LG06 400 speed type from file LUMAT_LG.TDL (luminous groups).
Ignore the violet screen colour of LG06, the data set just requires its kV characteristic.

FILM:	Select from	**FILM.TDL :**	**X-CONSTANT RLF=1**
SCREEN:	Select from	**LUMAT_LG.TDL :**	**LG06 S400 vi**
CHAMBER:	Select from	**CHAMBER.TDL :**	the installed chamber type
CASSETTE:	Select from	**CASSETTE.TDL :**	**normal cassette(def)**
SYSTEM CORRECTION:	Select from	**SYSCOR.TDL :**	**no corr.(ISO9236-1)**
CORRECTION FACTOR:			**1.00**

Transmit the screen with <**F2**>.
Call the same Data Set >> **DRC Handling: Start Automatic DRC Processing** >> again, but now use <**ESC**> to open the data set screen:



Two data fields can be modified, all others **must not** be changed:

Abbreviation: Any name up to six characters can be given. The abbreviation name should indicate the programmed speed type if different speeds shall be used with the same imaging plates.

Dose of FSC [µGy]: Use K_s explanation this page. The value can be adapted to the local "density taste".

All other data (**kV70-Char.** and **RLF**) **must** remain as they have been calculated during the programming and loading process to obtain the chamber type + imaging plate depending kV characteristic. RLF is constant = 1.

Formula to determine the **speed = S** of a film-screen-combination:

$$S = \frac{K_0}{K_s} = \frac{\textbf{1000 µGy}}{\textbf{Dose of FSC [µGy]:}}$$

>> use speed as >> abbreviation >> name

!! S = speed **must not** be mixed up !!
!! with *S = sensitivity PCR* !!

K_0 is a constant with a value of 1000 µGy.

K_s is a variable value principally representing a switch off dose to obtain a density of 1.0 above base and fog, (normal films determined by the manufaturer of a film-screen system for defined processing conditions which are different in a computed RAD system). Can be adapted to the local "density taste"

If e.g K_s = 2.5 µGy (like the example of the previous page)

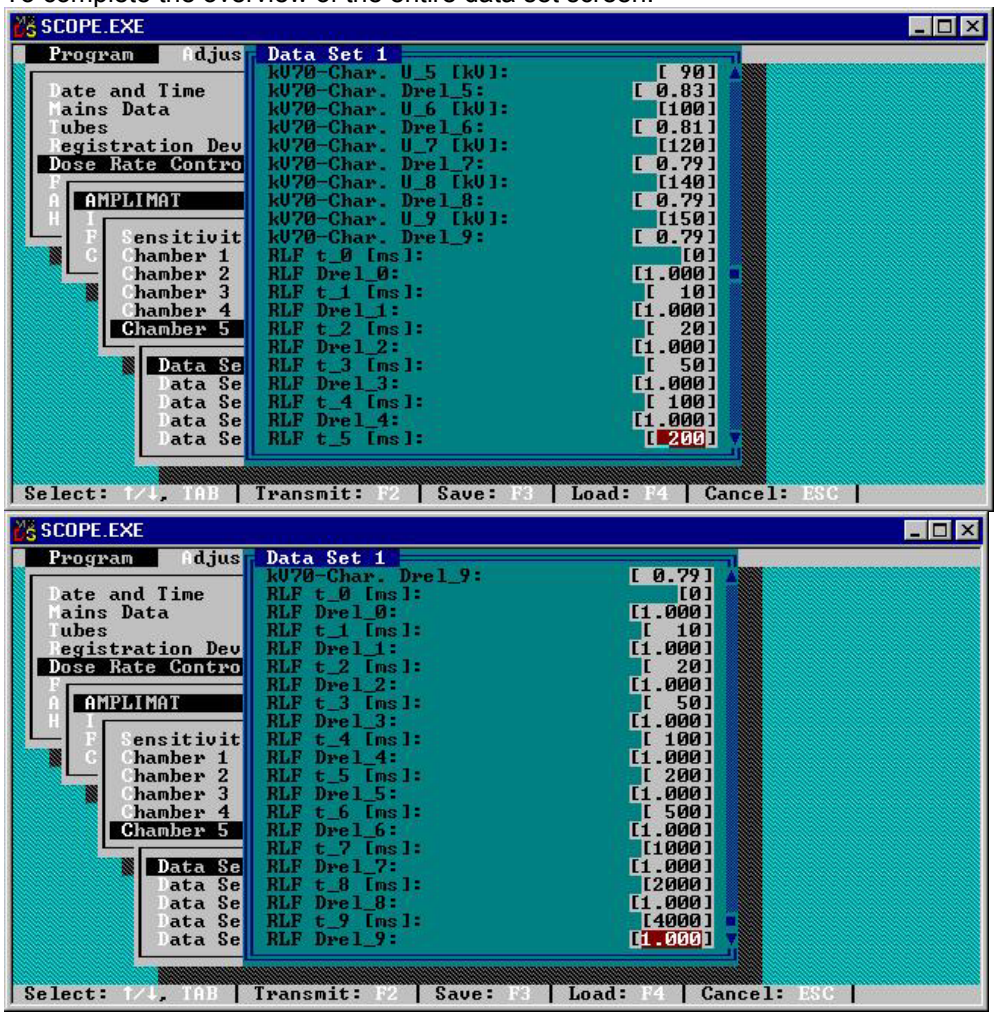
$$S = \frac{1000\ \mu Gy}{2.5\ \mu Gy} = 400$$

Range of **speed values S** within the standard **speed class SC** systems:

only valid for film-screen-combinations for an optical density of 1.0		
Speed class **SC** Standard	dose / exposure [µGy] Standard class **SC**	Speed value **S** Range
6	167	5 - 9
12	83	10 - 18
25	40	20 - 36
50	20	40 - 71
100	10	80 - 140
200	5	160 - 280
400	2.5	320 - 560
800	1.25	630 – 1100
1600	0.625	1250 – 2200

If different speeds shall be used copy one screen with <**F3**> and load it to all other data sets of the chamber with <**F4**>. Change **Abbreviation** names and **Dose of FSC** values accordingly afterwords

To complete the overview of the entire data set screen:



More information available in booklet "Radiographic screens and films", manual order No. 4512 980 50592.